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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,662	10/22/2003	Claudia Maria de L. Alvarenga Baptista	2764-127	6481

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ARLINGTON, VA 22203

EXAMINER
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GRUFFIN, WALTER DEAN

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/689,662

Applicant(s)

ALVARENGA BAPTISTA ET AL.

Examiner

Walter D. Griffin

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 040104.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rice (US 2,767,126) in view of admitted prior art and Mauleon et al. (US 4,818,372).

The Rice reference discloses a process for the fluid catalytic cracking of hydrocarbons such as heavy gas oils boiling in the range of 600° to 1050°F (315° to 566°C). The process comprises contacting a hydrocarbon feed in a riser reactor with a cracking catalyst. This

Art Unit: 1764

hydrocarbon feed contains objectionable materials such as nitrogen compounds. A specific example of this type of feed contains 0.4 weight percent nitrogen (4000 ppm). This feed is analogous to the claimed feedstock B. Conditions in this reactor include temperatures ranging from 700° to 1000°F (371° to 538°C). Simultaneously, another feed containing substantially less of the objectionable materials is contacted with the cracking catalyst in another riser. This feed is analogous to the claimed feedstock A and in the example is described as being relatively free of deleterious materials. Conditions in this reactor include temperatures ranging from 800° to 1100°F (427° to 593°C). The catalyst to oil ratio used in each reactor ranges from 1:1 to 15:1 or more. Products such as gasoline are then recovered from the cracking apparatus. Catalyst is regenerated at temperatures from 950° to 1125°F (510° to 607°C). See column 1, lines 15-18 and 46-66; column 2, lines 8-20 and 48-72; column 3, lines 1-32; column 5, lines 11-30; column 6, lines 1-62; and column 7, lines 7-17.

The Rice reference does not disclose zeolite catalysts, does not disclose the actual and relative amounts of nitrogen in the feeds, does not disclose the presence of a cooling fluid, does not disclose the presence of two risers for cracking the feed containing objectionable nitrogen compounds, does not disclose feed characteristics such as °API, and does not disclose all the claimed reaction conditions.

Applicant admits in the second paragraph on page 8 that zeolite catalysts dispersed in a matrix are conventionally used in cracking processes.

The Mauleon reference discloses the injection of an auxiliary (i.e., cooling) fluid in an FCC process. The fluid may be water or any vaporizable hydrocarbon. The amount of water

Art Unit: 1764

added ranges from 2 to 15% and the amount of hydrocarbon added ranges from 10 to 70% of the feed. See column 3, line 31 through column 4, line 14 and column 5, lines 47-65.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Rice by using a zeolite catalyst in any amount that is effective in a matrix because Rice discloses that synthetic cracking catalysts may be used in the process and, as admitted by applicant, zeolite catalysts are conventionally used in such processes as disclosed by Rice. Therefore, these types of catalysts would be expected to be effective when used in the process of Rice.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Rice by using feeds having the claimed relative and actual amounts of nitrogen because the Rice reference directs one to use a feed that contains a large amount of nitrogen and one that contains little nitrogen. One of ordinary skill would recognize that many feeds with varying amounts of nitrogen fit the disclosure of Rice and would be effectively treated in the process of Rice.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Rice by using a cooling fluid as suggested by Mauleon because conditions can be effectively controlled through the use of a cooling fluid thereby preventing the production of unwanted coke and light gases.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Rice by using multiple risers because one would use as many as required to provide the desired capacity of the system.

Art Unit: 1764

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Rice by using feeds having the claimed characteristics because these feeds fall within the general class of feeds disclosed by Rice and therefore would be expected to be effectively treated in the process of Rice.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Rice by using conditions as claimed because Rice discloses that the conditions may be varied over wide ranges and are dependent on several variables including composition of the feed and desired products. Therefore, one of ordinary skill would use conditions including those claimed that provide of the desired control of the process to produce desired products.

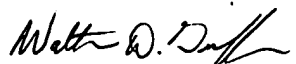
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on M-F 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1764

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
February 24, 2006